

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended). A mass transit vehicle window installation assembly for simplifying and accelerating the installation of a window assemblies in a vehicle window apertures, the window installation assembly comprising:

a window retainer configured to connect between a window frame of a window assembly frame and a vehicle wall panel having a window aperture shaped to receive the window assembly, where the window assembly frame has a planform shape that generally complements that of allows at least a portion of the window frame including an outer peripheral wall to be received within the window aperture;

the retainer being additionally configured to space laterally position the window by spacing the outer peripheral wall of such a window assembly frame from an inner peripheral surface of a complementary window aperture; and

the retainer being additionally configured to be supported on one of a window frame and a complementary window aperture in a position to center laterally position the window assembly as the window assembly is inserted axially into the aperture.

Claim 2 (currently amended). A mass transit vehicle window installation assembly as defined in claim 1 in which the retainer is additionally configured to retain a window frame in a desired position within a complementary window aperture.

Claims 3-10 (canceled).

Claim 11 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 9 in which at least one retainer includes a spring arm that extends from a mounting base of the retainer in a direction that, when the retainer is attached to an outer peripheral wall of a window frame, is generally the same as the direction of window assembly insertion, and the distal end is configured to hook over a back edge of the receiving window aperture to secure the window assembly against extraction opposite the direction of window assembly insertion.

Claim 12 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 4 in which at least one retainer comprises a spring clip including:
a mounting base configured to support the retainer on a window assembly frame; and
a spring arm extending from the mounting base and configured to bend inward toward the mounting base when a window assembly frame that the retainer is supported on is inserted into a receiving window aperture and the spring arm engages a front edge of the aperture, the spring clip being further configured to continuously bias a distal end of the spring arm outward against an inner peripheral surface of the aperture, the distal end of the spring arm being configured to engage the inner peripheral surface of the aperture in such a way as to provide an interference fit for the window assembly within the receiving window aperture.

Claim 13 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 12 in which:
at least one retainer comprises a spring clip having a spring arm that, when the retainer is supported on a window frame, extends from a mounting base of the retainer in a direction generally opposite the direction of window assembly insertion; and
the distal end of the spring arm includes a saw tooth edge configured to dig into an inner peripheral surface of the receiving window aperture to a depth sufficient to secure the window assembly against extraction from the window aperture opposite the direction of window assembly insertion.

Claim 14 (currently amended). A mass transit vehicle window installation assembly as defined in either claim 1 or 3 in which:
the retainer includes a trim strip ring that approximates the outer planform peripheral shape of a window aperture and a complementary window assembly frame configured to be installed in that window aperture;

the trim strip ring is configured to engage respective back surfaces of the window assembly frame and a wall panel that the aperture is formed in and to cover a gap formed between ~~a~~ an outer peripheral ~~outer~~-surface of the window frame and ~~a~~ an inner peripheral ~~inner~~-surface of the window aperture when the window frame is installed in a window aperture in the wall panel.

Claim 15 (currently amended). A mass transit vehicle window installation assembly as defined in claim 14 in which the trim strip ring includes an elongated stem configured to be inserted in a gap formed between an outer peripheral ~~outer~~-surface of a window assembly frame and an inner peripheral ~~inner~~-surface of a window aperture receiving the window assembly frame.

Claim 16 (currently amended). A mass transit vehicle window installation assembly as defined in claim 14 in which the trim strip ring includes an elongated seal ring configured to prevent moisture and drafts of air from passing through a gap formed between an outer peripheral ~~outer~~-surface of a window assembly frame and an inner peripheral ~~inner~~-surface of a window aperture receiving the window assembly frame.

Claim 17 (currently amended). A mass transit vehicle window installation assembly as defined in ~~either claim 1 or claim 3~~ in which:

the vehicle window installation assembly includes a window assembly frame having a front flange that extends outward from a main portion of the frame in a position disposed against a front surface of a wall panel that the window assembly is installed in;

the front flange covers the gap between the window frame and the inner peripheral wall of a window aperture that the window assembly is installed in; and

an elongated rubber seal ring is connected around and along a back surface of the front flange in a position to seal against the front surface of the wall panel.

Claim 18 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 7 in which the mounting base of the spring clip of at least

one of the retainers includes a pair of radially extending diametrically opposed attachment ears configured to engage respective opposing lateral undercuts formed along opposite sidewalls of a groove formed around and outer peripheral wall of a window frame.

Claim 19 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 4 in which at least one of the retainers includes a spring clip configured to be supported on the window aperture and to engage a window assembly frame when the window assembly frame is inserted into a complementary window aperture.

Claim 20 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 4 in which at least one retainer of the plurality of retainers includes a spring clip configured to engage opposing channel side walls of a channel formed into and around an inner peripheral wall of a receiving window aperture.

Claim 21 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 20 in which the spring clip of at least one retainer includes a pair of legs that extend from a base element of the clip and are shaped to engage a pair of elongated flanges that extend inwardly from opposing channel sidewalls of a channel formed into and around an inner peripheral wall of the window aperture.

Claim 22 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 21 in which the legs of the spring clip of the at least one retainer have S-shaped bends configured to allow the legs to bend inward as they are being pressed into a channel past flanges that extend inwardly from opposing channel sidewalls and then to snap back outwards into a position engaging the flanges and precluding extraction.

Claim 23 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 21 in which the legs of the spring clip of the at least one retainer are long enough to prevent the clip from falling into the channel or track without engaging the flanges.

Claim 24 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 21 in which:

the clip includes a resilient spring arm that extends diagonally from the base element of the clip in a direction generally opposite the direction intended for insertion of a window assembly frame;

the spring arm is configured to bend outwardly toward the inner peripheral wall of a window aperture that the clip is installed in when contacting a front edge of a window assembly frame that is being inserted into the window aperture.

Claim 25 (withdrawn). A mass transit vehicle window installation assembly as defined in claim 24 in which a plurality of the spring clips are spaced around the inner peripheral wall of the window aperture so that a collective inward bias of the spring arms of the spring clips centers the window assembly in the window aperture upon insertion.

Claim 26 (withdrawn). A method for centering and retaining a window assembly in a window aperture formed in a mass transit vehicle wall panel, the method including the steps of:

providing a vehicle wall panel including a window aperture;

providing a window assembly including a window assembly pane supported around outer edges of the pane by a window assembly frame, the window assembly frame having a general planform shape complementary to and smaller than that of the window aperture;

supporting a window assembly retainer on one of the window assembly frame and the window aperture; and

inserting the window assembly into the window aperture after supporting the window assembly retainer on one of the window assembly frame and the window aperture.

Claim 27 (withdrawn). The method of claim 26 in which the step of providing a vehicle wall panel includes providing a window aperture in the wall panel, the aperture being at least partially defined by extruded structural channel having a recessed detent formed into an inner peripheral surface of the window aperture.

Claim 28 (withdrawn). The method of claim 26 in which:
the step of supporting a window assembly retainer includes providing a window assembly retainer that includes a spring clip fixed to the window frame; and
the step of inserting the window assembly includes:

inserting the window assembly such that the spring clip is compressed inward toward the window frame; and

inserting the window assembly until the spring clip snaps outward into engagement with the aperture detent while remaining engaged against an inner peripheral surface of the window aperture to both block the window assembly movement in a direction opposite a direction of installation and to space the window frame a desired distance from the inner peripheral surface of the window aperture.

Claim 29 (withdrawn). The method of claim 28 in which:
the step of providing a wall panel includes providing a window aperture in the wall panel, the aperture being at least partially defined by a tubular structural member;
the step of supporting a window assembly retainer includes:
providing a window assembly retainer that includes a spring clip;
supporting the spring clip on the window frame; and
the step of inserting the window assembly includes inserting the window assembly such that the spring clip bends inward upon engagement with an outer edge of

the window aperture as the window assembly is inserted into the window aperture and the spring clip continuously biases a distal end of the spring clip outward against the inner peripheral surface of the window aperture such that the distal end of the spring clip engages and provides an interference fit for the window assembly within the window aperture.

Claim 30 (withdrawn). The method of claim 26 in which the step of supporting a window assembly retainer on one of the window frame and the window aperture includes supporting a plurality of window assembly retainers at spaced locations around one of the window frame and the window aperture.

Claim 31 (withdrawn). The method of claim 26 in which the step of supporting a window assembly retainer on one of the window frame and the window aperture includes:

providing a retainer that includes a spring clip comprising a pair of diametrically opposed attachment ears;

inserting the ears into a groove formed around one of the outer peripheral wall of the window frame and the inner peripheral wall of the window aperture; and

engaging the ears in respective opposing lateral undercuts formed along opposite sidewalls of the groove by rotating the spring clip.

Claim 32 (withdrawn). The method of claim 26 in which:
the step of providing a retainer includes providing a spring clip comprising a pair of legs shaped to engage and retain the clip between opposing flanges that extend inwardly from side walls of a channel formed into and around the inner peripheral wall of the window aperture, and

the step of supporting a window assembly retainer includes inserting the legs into a channel formed around the inner peripheral wall of the window aperture until the legs engage the flanges.

Claim 33 (withdrawn). The method of claim 26 in which the step of inserting the window assembly includes inserting the window assembly from a position outside a vehicle including the wall panel such that a front flange of the window frame rests against a front surface of the wall panel on the exterior of the vehicle with the window assembly in an installed position.

Claim 34 (withdrawn). The method of claim 26 further including the step of installing a trim ring over a gap formed between a back edge of the window frame and a back edge of the window aperture on an interior of the vehicle.

Claim 35 (withdrawn). The method of claim 34 in which the step of installing a trim ring includes snapping the trim ring into place.

Claim 36 (withdrawn). The method of claim 26 in which the step of inserting the window assembly into the window aperture includes inserting the window assembly from a position inside a vehicle including the wall panel such that a front flange of the window frame rests against a back surface of the wall panel in the vehicle interior with the window assembly in an installed position.

Claim 37 (withdrawn). The method of claim 26 further including the step of installing a trim ring over a gap formed between a front edge of the window frame and a back edge of the window aperture on an exterior of the vehicle.

Claim 38 (withdrawn). The method of claim 37 in which the step of installing the trim ring includes snapping it into place.

Claim 39 (withdrawn). The method of claim 37 in which the step of installing the trim ring includes passing fasteners through the trim strip ring and into an existing groove that runs around the back surface of the window frame.